



March 2, 2012

Connecticut General Assembly Environment Committee  
Room 3200, Legislative Office Building  
Hartford, CT 06106

Dear Senator Meyer, Representative Roy, Senator Roraback, Representative Chapin and Members of the Environment Committee,

Thank you for the opportunity to provide testimony in regard to HB 5260 – “An Act Restricting the Use of Certain Chemicals That are Harmful to Juvenile Lobsters.” I am testifying against this piece of legislation on behalf of Central Life Sciences.

Methoprene has been used for more than 35 years as a valuable, environmentally-responsible tool in mosquito control, protection and prevention efforts. As you know, mosquito control is a very serious public health issue. Uncontrolled, mosquito populations can potentially lead to increased incidence of West Nile virus (WNV) and Eastern Equine Encephalitis (EEE) in the region. According to the American Mosquito Control Association (AMCA), a single female mosquito can produce upward of 50 billion total offspring in 16 weeks, over four generations, assuming 70 percent survival rate.

Speculation that methoprene could be causing lobster die-off could result in the loss of this valuable and reliable tool to control mosquito-borne diseases in our communities. Science has consistently shown that methoprene is safe to the environment and organisms within the environment when used as directed.

Methoprene is used in catch basins, a prime breeding area for mosquitoes. Since it breaks down rapidly in sunlight and chemical concentrations outside the catch basins are so diluted, it is nearly impossible for this product, if used as directed, to impact lobsters.

Simply stated, there is no scientific basis for the claim that methoprene is killing lobster larvae or affecting the molting process of adult lobsters at application rates used to control mosquitoes. The fact that the current bill language proposes an outright ban on methoprene statewide is cause for major concern. Vector control programs are essential to maintaining public health and well-being and are responsible for the low year-to-year occurrence of mosquito-borne diseases like WNV and EEE. Taking this valuable tool out of an already small toolbox would be potentially detrimental to public health.

We hope that as you hear testimony today and examine this legislation further, you rely on sound science to make your decision. We welcome any questions you may have and look forward to working with the committee on this issue in the future.

Sincerely,

Doug Vangundy, BCE  
Director, Specialty Product Development  
Central Life Sciences



# Altosid

Wellmark International

# History of Methoprene

- ⇒ Methoprene was first discovered in 1968 and was the first commercialized insect growth regulator (IGR) approved by the EPA
- ⇒ First products for mosquito control registered in 1975
- ⇒ IGRs break the reproductive cycle of certain insects
- ⇒ Their discovery ushered in a new concept called biorational pest control, which seeks to identify methods of control based on an insect's natural biological processes

# Methoprene Uses

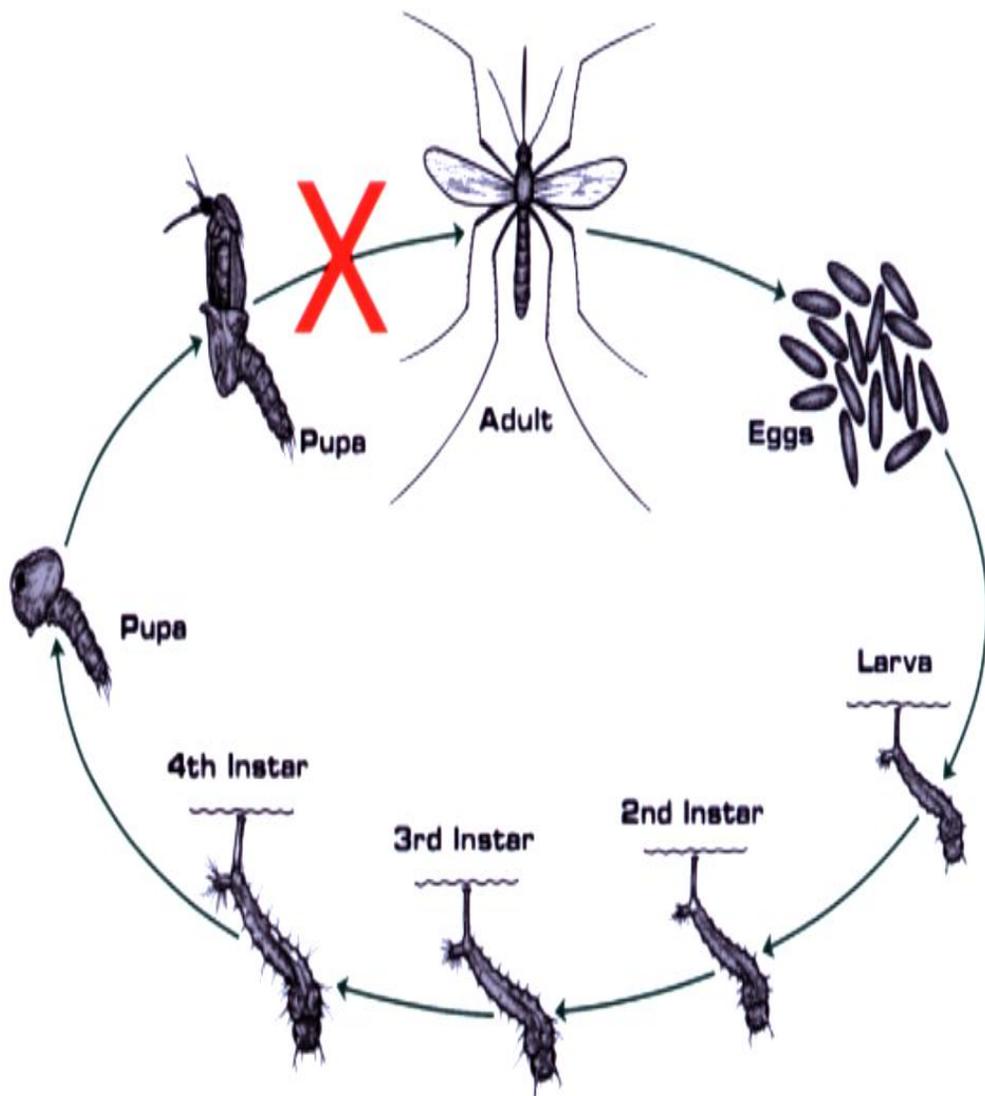
- ⇒ Stored grain protection
- ⇒ Mushroom houses for fly control
- ⇒ Feed through in cattle for horn fly control
- ⇒ Flea control including on-animal and premise
- ⇒ Midge control
- ⇒ Mosquito control

# How Does Methoprene Work?

- ⇒ Methoprene interferes with the growth cycle of mosquitoes
- ⇒ Methoprene is a synthetic copy of insect biochemicals that are highly selective to insects
- ⇒ Insects depend on the presence of these biochemicals during larval growth, but it must be absent in order for the insect to undergo metamorphosis
- ⇒ The presence of methoprene prevents the insect's metamorphosis from a larva into an adult

# How Does Methoprene Work?

## Mosquito Life Cycle



# Altosid

- ➔ Applied directly to water for control of developing mosquito larvae
- ➔ Product line designed to fit the varied habitats where mosquitoes develop
- ➔ Formulations are designed for either short term residual for single brood mosquitoes or for longer term residual for multiple broods
- ➔ Low levels of methoprene are released into the water column
  - Altosid Liquid Larvacide is applied at 6 grams to the acre at maximum label rate

# Application and Degradation

- ➔ Application rates dependent on type of habitat, water depth and water quality
- ➔ Range of average daily methoprene concentrations, resulting from an application: 0.22 – 1.1 ppb
- ➔ Typical LC<sub>50</sub> value for target mosquito species: 0.1 ppb
- ➔ Methoprene degrades rapidly in sunlight and through microbial action
- ➔ Major degradates: 7-methoxycitronellic acid and 7-methoxy citronellal

# Methoprene environmental concentrations

- ⇒ Only low levels are required to control mosquitoes
- ⇒ Actual water concentrations are an important consideration when evaluating toxicological information
- ⇒ Highest mean daily concentration for any one formulation is 0.32  $\mu\text{g/liter}$  (0.32 ppb)

# Registration Requirements

- ➔ USEPA pesticide registration is an absolute requirement
  - Methoprene has been registered for over 30 years
- ➔ Prior to registration approval, EPA evaluates the pesticide to ensure that it will not have any adverse effects on humans, the environment and non-target species.
  - Requires a battery of tests on various non-target species
- ➔ Methoprene is registered as a biopesticide, same as *Bti*, *Bs*, by the Environmental Protection Agency
- ➔ Toxicity testing is comprised of acute, subchronic and chronic evaluations for mammalian organisms and other non-target species in lab and field studies

# Methoprene vs. Bti

- ➔ Methoprene provides more consistent control than *Bti*
  - *Bti* is an additional tool for mosquito control but it has limitations that could affect performance
  - Methoprene is effective at the late larval stage allowing the younger stages to be left in the water column as a food source
- ➔ *Bti* must be ingested to affect mosquito larvae and does not perform well when alternate food sources or high organic matter is present
- ➔ *Bti* is susceptible to UV light and microbial degradation which can limit the effectiveness of the product
- ➔ *Bti* has a place in mosquito control but it is not a product that can be used in all situations and all times

# Minimal Risk to Non-Targets with Methoprene Usage

- ⇒ Methoprene has been registered by USEPA for >25 years, extensively studied and without any environmental incident
- ⇒ Methoprene is effective at extremely low use rates resulting a product with no environmental impact
- ⇒ Extremely low use rates and high efficacy results in formidable products for mosquito control